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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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APPLIED MATERIALS, INC.
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EXAMINER	
HOSSAIN, TANIM M	

ART UNIT	PAPER NUMBER
2141	

DATE MAILED: 10/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/905,313	DOR ET AL.	
	Examiner	Art Unit	
	Tanim Hossain	2145	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-27 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-27 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 13 November 2001 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 10152004.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claim 19 is objected to because of the following informalities: there is no article to describe "defect source identifier". Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Larson, et al. (U.S. 6,370,455) in view of Berezin (U.S. 5,539,752).

As per claim 1, Larson teaches a method of communicating defect information between a defect source identifier client and server comprising: creating defect inspection information within a defect source identifier client, the defect information containing information regarding identified defects (abstract; column 4, lines 36-39; 56-59); converting the defect inspection information into converted defect inspection information that is in a form defined by user defined tags (column 6, lines 39-47); transmitting the converted defect inspection information through a network to a defect source identifier server (column 6, lines 47-54; column 8, lines 40-58); and

deriving defect source information at the defect source identifier server in response to the converted defect inspection information (column 7, line 65 – column 8, line 39). Larson does not specifically teach the diagnosis of semiconductor wafers. Berezin teaches the optical sensing of semiconductor wafers to find defects (column 3, lines 40-64). It would have been obvious to one of ordinary skill in the art at the time of the invention to include a system for the diagnosis of semiconductor wafer defects, as taught by Berezin, implemented into the system of Larson. The motivation for doing so lies in the fact that both inventions are from the same field of endeavor, namely the sensing of defects. Further motivation lies in the fact that Berezin's teaching would add further functionality to Larson's invention to expand into the field of semiconductor wafers.

As per claim 2, Larson-Berezin teaches the method of claim 1 on the basis of obviousness, wherein the converted defect inspection information is in the form of extensible markup language (XML) (column 6, lines 32-36).

As per claim 3, Larson-Berezin teaches the method of claim 1 on the basis of obviousness, wherein the defect source information is in the form of XML (column 6, lines 32-36; column 7, lines 19-26).

As per claim 4, Larson-Berezin teaches the method of claim 1 on the basis of obviousness, but does not specifically teach the identification of wafer defects in a metrology cell. It would have been obvious to one of ordinary skill in the art at the time of the invention to include this limitation, as wafer defects and wafer function takes place in the metrology cell, and in a situation where wafer defects are determined, the metrology cell is the main part where relevant wafer defects will occur. Thus it would have been obvious to one of ordinary skill in the art to include this limitation.

As per claim 5, Larson-Berezin teaches the method of claim 1 on the basis of obviousness, further comprising: transmitting the defect source information from the defect source identifier server to the defect source identifier client (column 8, lines 40-58); and utilizing the defect source information at the defect source identifier client (column 8, lines 40-58).

As per claim 6, Larson-Berezin teaches the method of claim 5 on the basis of obviousness, wherein the defect source information and the defect inspection information are displayed simultaneously at the defect source identifier client (column 11, lines 5-25).

As per claim 7, Larson-Berezin teaches the method of claim 5 on the basis of obviousness, further comprising: providing defect reference information at the defect source identifier server (column 7, line 65 – column 8, line 58); transmitting the defect reference information from the defect source identifier server to the defect source identifier client (column 8; lines 40-58); and displaying the defect reference information at the defect source identifier client (column 8, lines 40-58; where the explicit display is obvious).

As per claim 8, Larson-Berezin teaches the method of claim 5 on the basis of obviousness, wherein the transmission of the defect reference information from the defect source identifier server to the defect source identifier client is controlled by user input at the defect source identifier client (column 8, lines 65-67).

As per claim 9, Larson-Berezin teaches the method of claim 5 on the basis of obviousness, wherein the defect source information and the defect reference information are displayed simultaneously at the defect source identifier client (column 11, lines 5-25).

As per claim 10, Larson-Berezin teaches the method of claim 1 on the basis of obviousness, wherein the utilizing the defect solution information involves displaying defect

solutions to the defect at the defect source identifier client in response to the defect solution information (column 8, lines 40-58).

As per claim 11, Larson teaches a method of communicating defect information between a defect source identifier server and client comprising: creating defect inspection information within a source identifier client, the defect inspection information containing information regarding identified defects (abstract; column 4, lines 36-39; 56-59); converting the defect inspection information into converted defect inspection information, wherein the converted defect inspection information is in the form of extensible markup language (XML) (column 6, lines 32-36, 39-47); transmitting the converted defect inspection information through a network to a defect source identifier server (column 6, lines 47-54; column 8, lines 40-58); deriving defect reference information at the defect source identifier server in response to the converted defect inspection information, wherein the defect reference information is in the form of XML (column 7, line 65 – column 8, line 39; column 6, lines 32-36); transmitting the defect reference information from the defect source identifier server to the defect source identifier client (column 8, lines 40-58); and utilizing the defect reference information at the defect source identifier client (column 8, lines 40-58). Larson does not specifically teach the diagnosis of semiconductor wafers. Berezin teaches the optical sensing of semiconductor wafers to find defects (column 3, lines 40-64). It would have been obvious to one of ordinary skill in the art at the time of the invention to include a system for the diagnosis of semiconductor wafer defects, as taught by Berezin, implemented into the system of Larson. The motivation for doing so lies in the fact that both inventions are from the same field of endeavor, namely the sensing of defects. Further

motivation lies in the fact that Berezin's teaching would add further functionality to Larson's invention to expand into the field of semiconductor wafers.

As per claim 12, Larson-Berezin teaches the method of claim 11 on the basis of obviousness, wherein the defect reference information includes solutions (column 8, lines 40-58).

As per claim 13, Larson-Berezin teaches the method of claim 11 on the basis of obviousness, but does not specifically teach the identification of wafer defects in a metrology cell. It would have been obvious to one of ordinary skill in the art at the time of the invention to include this limitation, as wafer defects and wafer function takes place in the metrology cell, and in a situation where wafer defects are determined, the metrology cell is the main part where relevant wafer defects will occur. Thus it would have been obvious to one of ordinary skill in the art to include this limitation.

As per claim 14, Larson-Berezin teaches the method of claim 11 on the basis of obviousness, wherein the defect reference information and the defect inspection information are displayed simultaneously at the defect source identifier client (column 11, lines 5-25).

As per claim 15, Larson-Berezin teaches the method of claim 11 on the basis of obviousness, further comprising: displaying the defect reference information at the defect source identifier client (column 11, lines 5-25).

As per claim 16, Larson-Berezin teaches the method of claim 11 on the basis of obviousness, wherein the transmission of the defect source identifier server to the defect source identifier client, is controlled by user input at the defect source identifier client (column 8, lines 65-67).

As per claim 17, Larson-Berezin teaches the method of claim 11 on the basis of obviousness, wherein the defect source information and the defect reference information are displayed simultaneously at the defect source identifier client (column 11, lines 5-25).

As per claim 18, Larson-Berezin teaches the method of claim 11 on the basis of obviousness, wherein the utilizing of defect solution information involves displaying defect solutions to the defect at the defect source identifier client in response to the defect reference information (column 8, lines 40-58).

Claims 19-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Larson-Berezin in view of Tan et al. (U.S. 6,263,255).

As per claim 19, Larson teaches an apparatus for communicating defect information between defect source identifier server and clients comprising: a converter converting the defect inspection information into converted defect inspection information that is in a form defined by user defined tags (column 6, lines 39-47); a network that transmits converted defect inspection information to a defect source identifier server (column 6, lines 47-54; column 8, lines 40-58); and the defect source identifier server deriving defect source information in response to the converted defect inspection information (column 7, line 65 – column 8, line 39). Larson does not specifically teach the use of a metrology tool to create defect inspection information relating to semiconductor wafers. Tan teaches the use of a metrology machine in communication through a computer network to convey tasks associated with the metrology machine (column 3, lines 26-47), and Berezin teaches the sensing of semiconductor information (column 3, lines 40-64). It would have been obvious to one of ordinary skill in the art at the time of the invention to

combine the teachings of Tan into the system of Larson-Berezin (motivations to combine discussed in the treatment of claim 1) such that the error detection apparatus of Larson-Berezin's invention includes the use of a metrology machine to detect defects in semiconductor wafers. The motivation for doing so lies in the fact that there lies a need for a process to discover semiconductor defects and communicate these defects such that a solution can be efficiently obtained. Tan's teaching into the system of Larson-Berezin fulfills this need, expanding the process of error detection and remote repair into the field of semiconductor wafers, thus expanding the functionality of Larson-Berezin's invention. All inventions are from the same field of endeavor, namely the use of computer networks to facilitate the transmittal of object information, leading to processing steps, as defined by the information.

As per claim 20, Larson-Berezin-Tan teaches the apparatus of claim 19, wherein the converter is an extensible markup language (XML) converter (column 6, lines 32-36, 39-47; where the ability to use XML as converted transmitted information constitutes the existence of an XML converter.

As per claim 21, Larson-Berezin-Tan teaches the apparatus of claim 19, wherein the defect source information is in the form of XML (column 6, lines 32-36, 39-47);

As per claim 22, Larson-Berezin-Tan teaches the apparatus of claim 19, further comprising: the network transmitting the defect source information from the defect source identifier server to the defect source identifier client (column 8, lines 40-58); and the defect source identifier client utilizing the defect source information (column 7, line 65 – column 8, line 39).

As per claim 23, Larson-Berezin-Tan teaches the apparatus of claim 22, wherein the defect source identifier client simultaneously displays defect source information and the defect inspection information (column 8, lines 40-58).

As per claim 24, Larson-Berezin-Tan teaches the apparatus of claim 19, further comprising: the defect source identifier server providing defect reference information; the network transmitting the defect reference information from the defect source identifier server to the defect source identifier client; and the defect source identifier client displaying the defect reference information (column 7, line 65 – column 8, line 58).

As per claim 25, Larson-Berezin-Tan teaches the apparatus of claim 24, wherein the network transmitting the defect reference information from the defect source identifier server to the defect source identifier client is controlled by user input at the defect source identifier client (column 8, lines 40-58).

As per claim 26, Larson-Berezin-Tan teaches the apparatus of claim 26, wherein the defect source identifier client simultaneously displays the defect source information and the defect reference information (column 8, lines 40-58).

As per claim 27, Larson-Berezin-Tan teaches the apparatus of claim 19, wherein the defect source identifier client utilizing the defect solution information involves displaying defect solutions (column 7, line 65 – column 8, line 58).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tanim Hossain whose telephone number is 571/272-3881. The examiner can normally be reached on 8:30 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia can be reached on 571/272-3880. The fax phone number for the organization where this application or proceeding is assigned is 703/872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866/217-9197 (toll-free).

Tanim Hossain
Patent Examiner
Art Unit 2145